



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/054,864	04/03/1998	CRAIG R. FRINK	A0521/7145(P	3189
26643	7590	01/03/2007	EXAMINER	
PETER J. GORDON, PATENT COUNSEL AVID TECHNOLOGY, INC. ONE PARK WEST TEWKSBURY, MA 01876			TRAN, HAI V	
			ART UNIT	PAPER NUMBER
			2623	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/054,864	FRINK ET AL.	
	<b>Examiner</b> Hai Tran	<b>Art Unit</b> 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 27 September 2006.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 5 and 19-48 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 5 and 19-48 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____ .	6) <input type="checkbox"/> Other: _____ .

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/27/2006 has been entered.

### ***Response to Arguments***

Applicant's arguments filed 09/27/2006 have been fully considered but they are not persuasive.

In response to Applicant's remark (page 2 of 4), "...The transfer of video data over the 1394 bus is accomplished using standard 1394 isochronous packets<sup>2</sup>. Thus, Aoki does not teach using frame by frame flow control over high speed serial bus, as recited in independent claims 5, 24, 30, 36 and 43."

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., *using frame by frame flow control over high speed serial bus*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

It is noted claims 5, 24, 30, 36 and 43 recite "A host device for transferring data to a video processing device over a high speed serial bus using frame by frame flow control". The claim does not require "using frame by frame flow control over the high speed bus", as alleged by Applicant (see Applicant' remark and Applicant' s previous remark dated 01/03/06, page 3 of 6) because the claim broadly reads as:

- 1) "Using frame by frame flow control, a host device for transferring data to a video processing device over a high speed serial bus"
- 2) "A host device for transferring data to a video processing device, using frame by frame flow control over a high speed serial bus"
- 3) "A host device using frame by frame flow control for transferring data over a high speed serial bus to a video processing device"
- 4) "A host device for transferring data over a high speed serial bus to a video processing device, using frame by frame flow control"

In view of that, Aoki (Col. 6, lines 15-20) meets at least the 1<sup>st</sup> interpretation "Using frame by frame flow control, a host device for transferring data to a video processing device over a high speed serial bus"; the 3<sup>rd</sup> interpretation "A host device using frame by frame flow control for transferring data to a video processing device over a high speed serial bus" and the 4<sup>th</sup> interpretation "A host device for transferring data over a high speed serial bus to a video processing device, using frame by frame flow control"

The Examiner suggests Applicant rewrites independent claims 5, 24, 30, 36 and 43 to better define Applicant invention so to avoid any ambiguities.

Applicant further argues, "a request packet indicates a request ... to transfer video data defining a video frame and sending ... a plurality of data packets including the video data defining the requested video frame." was not addressed.

In response, the Examiner respectfully disagrees with Applicant because Applicant's previous remark (dated 01/03/06; last paragraph of page 2 to 1<sup>st</sup> paragraph of page 3) admits that Aoki 's editor 1 issues a "play" command to the conversion device 2 for reading out video data from the HDD 4 (Col. 7, lines 42-45). In view of that AoKi's conversion device 2, in response to the "play" command, i.e., a request for video data, transfers the requested video data defining a video frame (image data blocks) by packetizing the requested video data defining a video frame (image data blocks) over the high-speed bus with packets including video data defining the requested video frame (image data blocks), see Col. 6, lines 10-20.

Claim 44, Applicant argues, "claim 44 recites that request packets from the recipient (not status packets from a source node) of transmitted data includes a packet rate fields. Note that in claim 43, these request packets are sent to indicate that the recipient is capable of receiving video data. Thus Aoki (or IEEE-1394) fails to disclose the limitations of claim 44."

In response, the Examiner agrees with Applicant that in claim 43, these request packets are sent to indicate that the recipient is capable of receiving video data. However, as indicated in the previous office action, it seems that Applicant misunderstood the Examiner 's analogy. The Examiner clearly indicates that IEEE-1394 standard inherently teaches that an arbitration sequences occurs between two nodes for any transactions, i.e., a transaction request or a transaction response. In this instant, the source node is the request node to the destination node in which the destination node receives the transaction request from the source/request node and responds to the source/request node at some time later. The transaction request includes a packet rate field, as previously addressed. The Examiner further cites IEEE-1394 Draft 8.0v2, July 7, 1995 (page 143-206, specifically page 189) to support.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 5-18, 21, 23-24, 27, 29-30, 33, 35-36, 39, 41 and 43-44 are rejected under 35 U.S.C. 102(e) as being unpatentable by Aoki et al. (US 6279061).

Claims 5 and 43, Aoki disclose a host device (device 2) for transferring data to a video processing device (device 1; editor PC) over a high-speed serial bus using frame by frame (Fig. 1; Col. 2, lines 20-40; Col. 5, lines 38-45) control comprising:

A memory (53, 61, 4);  
An input 51 for receiving request packets from the video processing device (device 1; editor PC) over the high-speed serial bus 11, wherein each request packet indicates a request from the video processing device (device 1; editor PC; see IEEE-1394 standard in which each request/data packet of Fig. 2 includes a SID) to transfer video data defining a video frame (image data blocks; Col. 2, lines 45-60; Col. 6, lines 10-20 and Col. 7, lines 15-23), and wherein each request packet includes a stream identifier (Fig. 2 and 4; editing and playback in an MPEG digital system conforms to MPEG-2 encode data packet with MPEG transport packet PIDs); and

An output for sending 51, in response to a request packet, a plurality of data packets including the video data defining the requested video frame from the memory (53, 61, 4) to the video processing device (device 1; editor PC) over the high speed serial bus (Col. 7, lines 40-65), wherein each data packet includes the stream identifier.

Claims 21, Aoki further discloses wherein at least one of the data packets in the plurality of data packets includes a target field indicating a device to which the

video processing device is directed to transfer the video data (see Fig. 2, el. Destination\_ID).

Claim 23, Aoki further discloses wherein the host device further sends through the output, a data packet including command field indicating a command to the video processing device (CTS of Asynchronous packet; Fig. 2 and 4).

Claim 24, Aoki disclose a video processing device (device 1; editor PC) for transferring data from a host device (device 2) over a high-speed serial bus using frame by frame (Fig. 1; Col. 2, lines 20-40; Col. 5, lines 38-45) control comprising:

A memory (53, 61, 4);

An output (not shown, from the editor PC device 1; see IEEE-1394 standard in which each request/data packet of Fig. 2 includes a SID) for sending request packets over the high-speed serial bus 11 to request to transfer of video data (Col. 2, lines 45-60; and Col. 7, lines 15-23), and wherein each request packet includes a stream identifier (Fig. 2 and 4; editing and playback in an MPEG digital system conforms to MPEG-2 encode data packet with MPEG transport packet PIDs); and

An input (not shown, editor PC device 1) for receiving a plurality of data packets from the host device (device 2) over the high speed serial bus, in response to each request packet (Col. 7, lines 40-65), wherein each data packet includes the video data defining the video frame (image data blocks; Col. 6, lines 10-20) requested by the request packet, and for transferring the video data to the memory

(reads on the PC1 's receives the requested and buffered in the PC1 for editing purpose).

Claim 27, Aoki further discloses wherein at least one of the data packets in the plurality of data packets includes a target field indicating a device to which the video processing device is directed to transfer the video data (see Fig. 2, el. Destination\_ID).

Claim 29, Aoki further discloses wherein the input 91 further receives a data packet including command field indicating a command to the video processing device (CTS of Asynchronous packet; Fig. 2 and 4).

Regarding method claim 30 is analyzed with respect to apparatus claim 24.

Regarding method claim 33 is analyzed with respect to apparatus claim 27.

Regarding method claim 35 is analyzed with respect to apparatus claim 29

Regarding method claim 36 is analyzed with respect to apparatus claim 5.

Regarding method claim 39 is analyzed with respect to apparatus claim 21.

Regarding method claim 41 is analyzed with respect to apparatus claim 23.

Regarding claim 44, "wherein the request packets includes a packet rate field that specifies a packet rate at which the host device is to send data to the video processing" is further inherently met by Aoki in which Aoki discloses the use of IEEE-1394 standard. Accordingly, IEEE-1394 standard inherently teaches that an

arbitration sequence occurs when a node is ready to transmit a packet of information to a destination node. The source node requests its physical layer to gain control of the bus. When bus control has been obtained for an asynchronous subaction, the source node sends the following packet information: a data prefix that may contain speed information; the source and destination address; a transaction code; a transaction label; a retry code; a data quadlet or data block; a header CRC character; a data block CRC character, if applicable; and a packet termination code.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 19-20, 25-26, 31-32, 37-38, and 45-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (US 6279061) in view of Paik et al. (US 5241382).

Claims 19, 45 and 47, Aoki discloses video data is packed into bytes into the plurality of packets because the length of the source packet of the 1394 AV/C protocol is a fixed length specific to each equipment in which each byte is defined as 8 bits, 16 bits or 32 bits, and the source packet is divided into plurality of data blocks,

i.e., 1, 2, 4, or 8 data blocks, which are sequentially transmitted as a plurality of isochronous packets.

Aoki does not clearly disclose, "wherein a component of the video data has a precision greater than a byte";

Paik discloses components (Fig. 1), as macroblock, or superblock, or block, wherein each superblock 106 comprises an image area that covers four luminance blocks 108 in the horizontal direction and two luminance block 108 in the vertical direction and each luminance blocks 108 comprise pixels (Col. 7, lines 25-31) in which block 108 has a precision greater than a byte (a component, i.e., block 108, is a portion of the data being transferred and has a precision greater than a byte because component block 108 is 64 bytes and is greater than a byte! Col. 7, lines 15-35) and wherein the data representing the component of the video data is packed into bytes in the plurality of packets (Col. 8, lines 48-51). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aoki to encode video data, as taught by Paik, so to provide a data format that includes various data fields that enable the receiver to avoid unnecessary processing (Col. 3, lines 49-65+).

Claims 20, 46 and 48, Paik further discloses further discloses wherein the plurality of packets includes a component size field indicating a number of bits per component (DLEN, Col. 5, lines 27-28).

Claim 25, Aoki discloses video data is packed into bytes into the plurality of packets because the length of the source packet of the 1394 AV/C protocol is a fixed length specific to each equipment in which each byte is defined as 8 bits, 16 bits or 32 bits, and the source packet is divided into plurality of data blocks, i.e., 1, 2, 4, or 8 data blocks, which are sequentially transmitted as a plurality of isochronous packets.

Aoki does not clearly disclose, "wherein a component of the video data has a precision greater than a byte";

Paik discloses components (Fig. 1), as macroblock, or superblock, or block, wherein each superblock 106 comprises an image area that covers four luminance blocks 108 in the horizontal direction and two luminance block 108 in the vertical direction and each luminance blocks 108 comprise pixels (Col. 7, lines 25-31) in which block 108 has a precision greater than a byte (a component, i.e., block 108, is a portion of the data being transferred and has a precision greater than a byte because component block 108 is 64 bytes and is greater than a byte! Col. 7, lines 15-35) and wherein the data representing the component of the video data is packed into bytes in the plurality of packets (Col. 8, lines 48-51). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aoki to encode video data, as taught by Paik, so to provide a data format that includes various data fields that enable the receiver to avoid unnecessary processing (Col. 3, lines 49-65+).

Claim 26, Paik further discloses further discloses wherein the plurality of packets includes a component size field indicating a number of bits per component (DLEN, Col. 5, lines 27-28).

Regarding method claim 31 is analyzed with respect to apparatus claim 25.

Regarding method claim 32 is analyzed with respect to apparatus claim 26.

Regarding method claim 37 is analyzed with respect to apparatus claim 19.

Regarding method claim 38 is analyzed with respect to apparatus claim 20.

3. Claims 22, 28, 34, 40 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (US 6279061) in view of Kurtze et al. (US 6105083).

Claim 22, Aoki does not clearly disclose data packet includes a boundary signal indicating whether the data packet ends with a last component of the requested video frame;

Aoki does not clearly disclose data packet includes a boundary signal indicating whether the data packet ends with a last component of the requested video frame.

Kurtze discloses data packet includes a boundary signal indicating whether the data packet ends with a last component of the requested video frame (Col. 7, lines 28-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aoki with the teaching of Kurtze so to

allow each processing element to have a small number of storage location for storing data, such as a pair of registers, which eliminates the need for large buffers and simplifies implementation of the processing element with such flow control as a simple integration circuit, as suggested by Kurtze (Col.2, lines 25-30).

Claim 28, Aoki does not clearly disclose, "wherein a data packet in the plurality of data packets includes a boundary signal indicating whether the data packet includes a last component of the video data defining the requested video frame".

Kurtze discloses data packet includes a boundary signal indicating whether the data packet ends with a last component of the requested video frame (Col. 7, lines 28-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aoki with the teaching of Kurtze so to allow each processing element to have a small number of storage location for storing data, such as a pair of registers, which eliminates the need for large buffers and simplifies implementation of the processing element with such flow control as a simple integration circuit, as suggested by Kurtze (Col.2, lines 25-30).

Claim 34 is analyzed with respect to apparatus claim 28.

Claim 40 is analyzed with respect to apparatus claim 22.

Claim 42, in view of the above analysis of claim 5, Aoki does not clearly disclose data packet includes a boundary signal indicating whether the data packet ends with a last component of the requested video frame;

Kurtze discloses data packet includes a boundary signal indicating whether the data packet ends with a last component of the requested video frame (Col. 7, lines 28-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aoki with the teaching of Kurtze so to allow each processing element to have a small number of storage location for storing data, such as a pair of registers, which eliminates the need for large buffers and simplifies implementation of the processing element with such flow control as a simple integration circuit, as suggested by Kurtze (Col.2, lines 25-30).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Tran whose telephone number is (571) 272-7305. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S. Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HT:ht  
12222006

  
HAI TRAN  
PRIMARY EXAMINER